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EXAMINER	
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ART UNIT	PAPER NUMBER
2618	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/539,869	WILDHAGEN, JENS	
	Examiner	Art Unit	
	RuiMeng Hu	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 March 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11,16,17,19,20 and 23-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11,16,17,19,20 and 23-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 March 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 3/16/2007 have been fully considered but they are not persuasive.

The applicant argues Cvetkovic et al. (US Patent 6141536) fail to disclose or teach or suggest instantaneously switching the receiver's gain from a present gain value corresponding to said present frequency to a second gain value corresponding to an alternative frequency whenever the broadcast signal at said alternative frequency is checked, whereby said second gain value is adapted to the supposed signal strength of the broadcast signal at said alternative frequency.

Cvetkovic et al. (US Patent 6141536) (figures 1,7, column 6 lines 37-45, 58-67) disclose the forcing circuit can be modified to provide ramping signals for controlling the gain control signals to smoothly transition reproduction from one tuner (present frequency) to the other (second/alternative frequency) and the amplifier gains are ramped such that audio reproduction transitions from the other tuner (present frequency) to the selected RDS tuner (second/alternative frequency). From these indications, it can be seen that as switching from the present frequency (present tuner) to the second/alternative frequency (other tuner), the receiver's gain is instantaneously settled/switched from the present gain value corresponding to the present frequency (present tuner) to a second gain value corresponding to the second/alternative frequency (other tuner).

Response to Amendment

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. **Claims 1-8, 11, 16-17, 19-20, 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Cvetkovic et al. (US Patent 6141536)** in view of **Nokes et al. (US Patent 6792258)**.

Consider **claim 1**, Cvetkovic et al. clearly disclose a method for monitoring broadcast signals at alternative frequencies during reception of a broadcast signal at a present frequency (figures 1-7, column 1 lines 25-45), comprising instantaneously

switching the receiver's gain from a present gain value corresponding to said present frequency to a second gain value corresponding to an alternative frequency when the broadcast signal at said alternative frequency is checked (column 1 lines 45-55, column 3 lines 54-62, column 6 lines 37-45, 58-67, when switching to an alternative frequency (alternative tuner) with better signal quality, the gain associated with the alternative frequency (alternative tuner) would be used) whereby said second gain value is adapted to the supposed signal strength of the broadcast signal at said alternative frequency (column 3 lines 54-62).

However Cvetkovic et al. fail to disclose the broadcast signals are according to the DRM standard.

In the same field of endeavor, Nokes et al. clearly disclose a diversity receiver with a diversity reception method can be used in many mobile data transmission applications including Digital Radio Mondiale (DRM) (column 5 lines 59-67).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection technique taught by Nokes et al. into the art of Cvetkovic et al. as to make the reception method applicable to the DRM standard for increasing its utility.

Consider **claim 2, as applied to claim 1 above**, Cvetkovic et al. as modified by Nokes et al. clearly disclose determining whether the program transmitted via the broadcast signal at said alternative frequency is the same as the program transmitted via the broadcast signal at the present frequency (column 3 lines 27-33, column 6 lines 47-57).

Consider **claim 3, as applied to claim 1 above**, Cvetkovic et al. as modified by Nokes et al. clearly disclose comparing the signal strength of the broadcast signal received at the alternative frequency to the signal strength of the broadcast signal received at the present frequency (column 4 lines 43-50).

Consider **claim 4, as applied to claim 1 above**, Cvetkovic et al. as modified by Nokes et al. clearly disclose when the signal strength of the broadcast signal at the alternative frequency surpasses the signal strength of the signal at the present frequency by a predefined amount (column 4 lines 43-50, column 6 lines 26-31), and when the programs transmitted at both frequencies are identical, the received frequency is switched from the present frequency to the alternative frequency (column 4 lines 40-50).

Consider **claim 5, as applied to claim 1 above,** Cvetkovic et al. as modified by Nokes et al. clearly disclose wherein alternative frequencies are monitored during time slots (a timely manner, alternate frequencies (AF) can only be checked by briefly switching the tuner to an AF to detect its signal strength and then quickly returning to the original frequency (very small time interval)) of static data symbol transmission, whereby during a first time slot, the receiver's gain control circuit settles to said second gain value, and whereby during a second time slot of static data symbol transmission, the receiver's gain is instantaneously switched to said second gain value (column 1 lines 25-55, column 3 lines 54-62, column 5 lines 11-23, if the present frequency signal associated with the present gain value becomes degraded, the tuner would switch to an alternate frequency (AF) with the best signal quality, at the same time the receiver's

gain control circuit would settle to an appropriate gain which corresponding to the alternate frequency).

Consider **claim 6, as applied to claim 1 above**, Cvetkovic et al. as modified by Nokes et al. clearly disclose correlating said broadcast signal received at said present frequency and said broadcast signal received at said alternative frequency (column 6 lines 47-57).

Consider **claim 7, as applied to claim 1 above**, Cvetkovic et al. as modified by Nokes et al. clearly disclose wherein the second gain value is set to a predefined constant (column 5 lines 11-23).

Consider **claim 8, as applied to claim 1 above**, Cvetkovic et al. as modified by Nokes et al. clearly disclose wherein the second gain value is determined by reducing the present gain value by a predefined constant (column 5 lines 11-23).

Consider **claim 11**, Cvetkovic et al. clearly disclose a receiver comprising a gain control unit, wherein said gain control unit (figures 1,7, column 5 lines 11-23, column 6 lines 37-45, 58-67) comprises gain switching means for instantaneously switching the receiver's gain from a present gain value corresponding to a present frequency to a second gain value corresponding to an alternative frequency whenever a broadcast signal at said alternative frequency is checked, whereby said second gain value is adapted to the supposed signal strength of the broadcast signal at said alternative frequency (column 1 lines 25-55, column 3 lines 54-62, whenever switching to an alternative frequency with better signal quality, the gain associated with the alternative frequency would be used).

However Cvetkovic et al. fail to disclose wherein both the broadcast signal received at said present frequency and the broadcast signal received at said alternative frequency are broadcast signals according to the DRM standard.

In the same field of endeavor, Nokes et al. clearly disclose a diversity receiver with a diversity reception method can be used in many mobile data transmission applications including Digital Radio Mondiale (DRM) (column 5 lines 59-67).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection technique taught by Nokes et al. into the art of Cvetkovic et al. as to make the reception method applicable to the DRM standard for increasing its utility.

Consider **claim 16, as applied to claim 11 above**, Cvetkovic et al. as modified by Nokes et al. clearly disclose comparator means adapted for comparing the signal strength of the broadcast signal received at the alternative frequency to the signal strength of the broadcast signal received at the present frequency (column 4 lines 43-50, column 6 lines 26-31).

Consider **claim 17, as applied to claim 11 above**, Cvetkovic et al. as modified by Nokes et al. clearly disclose frequency switching means adapted for switching the received frequency from the present frequency to the alternative frequency when the signal strength of the broadcast signal at the alternative frequency surpasses the signal strength of the signal at the present frequency (column 4 lines 43-50, column 6 lines 26-31) and when the programs transmitted at both frequencies are identical (column 4 lines 40-50).

Consider **claim 19, as applied to claim 11 above,** Cvetkovic et al. as modified by Nokes et al. clearly disclose wherein alternative frequencies are monitored during time slots (a timely manner, alternate frequencies (AF) can only be checked by briefly switching the tuner to an AF to detect its signal strength and then quickly returning to the original frequency (very small time interval)) of static data symbol transmission, whereby during a first time slot, the receiver's gain control circuit settles to said second gain value, and whereby during a second time slot of static data symbol transmission, the receiver's gain is instantaneously switched to said second gain value (column 1 lines 25-55, column 3 lines 54-62, column 5 lines 11-23, if the present frequency signal associated with the present gain value becomes degraded, the tuner would switch to an alternate frequency (AF) with the best signal quality, at the same time the receiver's gain control circuit would settle to an appropriate gain which corresponding to the alternate frequency).

Consider **claim 20, as applied to claim 11 above**, Cvetkovic et al. as modified by Nokes et al. clearly disclose a correlator adapted for correlating said broadcast signal received at said present frequency and said broadcast signal received at said alternative frequency (column 6 lines 47-57).

Consider **claim 25**, Cvetkovic et al. clearly disclose a method for monitoring broadcast signals at alternative frequencies during reception of a broadcast signal at a present frequency (figures 1-7, column 1 lines 25-45), comprising instantaneously switching the receiver's gain from a present gain value corresponding to said present frequency to a second gain value corresponding to an alternative frequency when the

broadcast signal at said alternative frequency is checked (column 1 lines 45-55, column 3 lines 54-62, column 6 lines 37-45, 58-67, when switching to an alternative frequency (alternative tuner) with better signal quality, the gain associated with the alternative frequency (alternative tuner) would be used) whereby said second gain value is adapted to the supposed signal strength of the broadcast signal at said alternative frequency (column 3 lines 54-62), and wherein the second gain value is determined by iteratively (ramping signals for controlling the gain control signals, thus the amplifier gains are ramped) modifying a predetermined gain value (as the amplifier gain of the second tuner is at minimum/zero initially).

However Cvetkovic et al. fail to disclose the broadcast signals are according to the DRM standard.

In the same field of endeavor, Nokes et al. clearly disclose a diversity receiver with a diversity reception method can be used in many mobile data transmission applications including Digital Radio Mondiale (DRM) (column 5 lines 59-67).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection technique taught by Nokes et al. into the art of Cvetkovic et al. as to make the reception method applicable to the DRM standard for increasing its utility.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Cvetkovic et al. (US Patent 6141536)** in view of **Nokes et al. (US Patent 6792258)** and **Zamat (US Patent 6314278).**

Consider **claim 9**, Cvetkovic et al. clearly disclose a method for monitoring broadcast signals at alternative frequencies during reception of a broadcast signal at a present frequency (figures 1-7, column 1 lines 25-45), comprising instantaneously switching the receiver's gain from a present gain value corresponding to said present frequency to a second gain value corresponding to an alternative frequency whenever the broadcast signal at said alternative frequency is checked (column 1 lines 45-55, column 3 lines 54-62, column 6 lines 37-45, 58-67, when switching to an alternative frequency (alternative tuner) with better signal quality, the gain associated with the alternative frequency (alternative tuner) would be used) whereby said second gain value is adapted to the supposed signal strength of the broadcast signal at said alternative frequency (column 3 lines 54-62).

However Cvetkovic et al. fail to disclose the broadcast signals are according to the DRM standard.

In the same field of endeavor, Nokes et al. clearly disclose a diversity receiver with a diversity reception method can be used in many mobile data transmission applications including Digital Radio Mondiale (DRM) (column 5 lines 59-67).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection technique taught by Nokes et al. into the art of Cvetkovic et al. as to make the reception method applicable to the DRM standard for increasing its utility.

However, Cvetkovic et al. fail to disclose wherein the second gain value is determined by iteratively reducing the present gain value, whereby in each step, the present gain value is reduced by a predefined constant.

In the same field of endeavor, Zamat clearly discloses the benefit of reducing the gain iteratively (column 5 lines 46-60).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection technique taught by Zamat into the art of Cvetkovic et al. as to reduce the gain iteratively to prevent reducing amplifier gain prematurely and by too large an amount, when the present frequency is switched to the second/alternative frequency on the main tuner, when the second tuner is used only for monitoring.

Claims 10 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Cvetkovic et al. (US Patent 6141536)** as modified by **Nokes et al. (US Patent 6792258)** in view of **Van Der Wijst et al. (US Pub. # 2002/0149707).**

Consider **claim 10, as applied to claim 1 above,** Cvetkovic et al. as modified by Nokes et al. clearly disclose for each of a set of alternative frequencies, a signal strength of the broadcast signal at said alternative frequency is stored (Cvetkovic et al. column 4 lines 44-46).

However, Cvetkovic et al. as modified by Nokes et al. fail to disclose a corresponding gain value adapted to the signal strength of the broadcast signal at said alternative frequency is stored.

In the same field of endeavor, Van Der Wijst et al. clearly disclose a corresponding gain value adapted to the signal strength of the broadcast signal at said alternative frequency is stored (paragraph 0021).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection technique taught by Van Der Wijst et al. into the art of Cvetkovic et al. as modified by Nokes et al. as to store gain control value for faster tuning.

Consider **claim 23, as applied to claim 11 above**, Cvetkovic et al. as modified by Nokes et al. clearly disclose storage means adapted for storing, for each of a set of alternative frequencies, a signal strength of the broadcast signal at said alternative frequency (Cvetkovic et al. column 4 lines 44-46).

However, Cvetkovic et al. as modified by Nokes et al. fail to disclose a corresponding gain value adapted to the signal strength of the broadcast signal at said alternative frequency is stored.

In the same field of endeavor, Van Der Wijst et al. clearly disclose a corresponding gain value adapted to the signal strength of the broadcast signal at said alternative frequency is stored (paragraph 0021).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection technique taught by Van Der Wijst et al. into the art of Cvetkovic et al. as modified by Nokes et al. as to store gain control value for faster tuning.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Cvetkovic et al. (US Patent 6141536)** as modified by **Nokes et al. (US Patent 6792258)** in view of **Dogan et al. (US Pub. # 2002/0150182).**

Consider **claim 24, as applied to claim 1 above**, Cvetkovic et al. as modified by Nokes et al. disclose a program stored on a computer readable medium, for causing a computer, when said program is executed on a computer or digital signal processor, to perform the method as defined in claim 1.

In the same field of endeavor, Dogan et al. clearly disclose a computer program product, comprising computer program means adapted to perform the method steps when said computer program product is executed on a computer or digital signal processor (paragraph 0137).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection technique taught by Dogan et al. into the art of Cvetkovic et al. as modified by Nokes et al. as to program the method steps for carrying out steps orderly and correctly.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to:**

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to RuiMeng Hu whose telephone number is 571-270-1105. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571-272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RuiMeng Hu
R.H./rh
June 6, 2007

EDAN ORGAD
PRIMARY PATENT EXAMINER
6/7/07